ABSTRACT

A medical retrieval device for retrieving foreign objects from a patient and the method of constructing the device are disclosed. The device incorporates a wire cable composed of a precursor alloy to a superelastic material to improve durability of the device. Because precursor alloys exhibit a linear stress-strain relationship and a yield point associated with a relatively high stress level, the device transfers greater stresses before experiencing deformation. Thus, greater crushing forces can be achieved using a device of this type. These crushing forces may be needed when the foreign object is too large to remove intact. This property also facilitates the device in dilating ducts to retrieve foreign objects. Using the precursor alloy additionally eliminates the need for heat treatment of the cables used in constructing the device. A retrieval device made of precursor alloy cable also is less susceptible to permanent deformation and unwinding during use.

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